Vampir

Installation Guide

Release 1.0 for Vampir Version 2.0

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Vampir was originally developed by the Zentralinstitut für Mathematik at the Forschungszentrum Jülich.

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1 Supported Platforms

Vampir currently supports the following platforms:

- DEC Alpha workstations running OSF/1 V4.0
- Hewlett Packard PA–RISC workstations running HPUX 10
- Hewlett Packard Exemplar machines running SPPUX 5
- IBM RS/6000 workstations running AIX 4.1 (including SP–2 nodes!)
- Intel i86 machines (PC–clones) running Solaris 2.5 or higher
- Intel i86 machines (PC–clones) running Linux 2.0
- Sun Sparc workstations running Solaris 2.5 or higher
- Silicon Graphics workstations running Irix 6.2
- NEC EWS Workstations running EWS-UX/V (Rel4.2)
- NEC SX4 machines running Super-UX R8.1
- Hitachi SR2201 machines running HI-UX/MPP 02-03

A graphical display running a X server (X11R5 or later) is, of course, required, as are the OSF/Motif libraries version 1.2 or later. For most of the above mentioned systems, Motif comes as part of the operating system – just make sure that is has been installed properly.

If you want to run Vampir on a workstation which is not mentioned in the above list, but that has an ANSI C compiler and the OSF/Motif libraries available, please contact Pallas; we are always interested in extending the number of systems supported by Vampir.

2 Unpacking the Vampir Distribution

The Vampir binary kit is available on a variety of different distribution media:

1. As a tar–file from the Pallas WWW pages (start at `http://www.pallas.de`) or by anonymous ftp from `ftp.pallas.de`.
2. On one CDROM with ISO-9660 filesystem
3. On one QIC-150 quarter–inch tape cartridge

You first have to decide where in the filesystem tree to put the Vampir directory tree. Create any necessary directories and `cd` into the intended Vampir root directory.

Unpacking differs according to the distribution medium:

1. To unpack the distribution file <dist-file>, issue the command

   ```
   gzip -dc <dist-file> | tar xvfp -
   ```

2. If you've got a ISO-9660 formatted CDROM, insert it into your system's CDROM drive, and mount the disk. Unpack the distribution file with the command

   ```
   tar xvfp <dist-file>
   ```

3. If you've got a QIC–150 cartridge, put it into your system's QIC–drive, and issue the command

   ```
   tar xvfp <qic-device>
   ```

   with <qic-device> being the proper device name for QIC–150 tapes.

3 The Vampir Directory Tree

The Vampir directory tree will look like this:

./bin/	executable images
./etc	various support files
./man/manl/	nroff manual pages
./doc	User's Manual and Installation Guide
./examples	Example tracefiles and associated source code

Documentation about Vampir can be found in the ./doc directory:

Vampir-userguide.ps.gz	Vampir User's Manual
Vampir-instguide.ps.gz	Vampir Installation Guide

They are in PostScript format and can be printed on PostScript Level 1 and Level 2 printers.

4 The Installation Process

The shell command script install-Vampir in the Vampir root directory will check the distribution files and change file access permissions. Invoke it by typing

```
./install-Vampir
```

in the Vampir root directory. Then answer the questions issued by the tool.

To run Vampir, you need a demo or permanent license key from Pallas. To inquire your system parameters, start the license check tool :

```
./bin/VA_lcheck
```

The tool will print a message like this:

```
VAMPIR: could not access license file.
VAMPIR: need license for product VA20, arch SPRC-OS5,
        hostid 2155491417, uid E0, machine class W.
VAMPIR: network address 192.168.3.4
VAMPIR: environment var PAL_ROOT not set.
VAMPIR: environment var PAL_LICENSEFILE not set.
```

If you don't have a license for Vampir on the current system, please contact `support@pallas.de` for a demo or permanent license. Be sure to include the above message!

5 The Vampir Licensing Scheme

In order to run Vampir on a system, you must have a license key from Pallas. The license keys are stored in a plain ASCII file, the pathname of which must be made known to Vampir by setting one of two environment variables:

- `PAL_LICENSEFILE` specifies the complete pathname of the license key file.
- `PAL_ROOT` points to the root of the Vampir installation. The pathname of the license file is assumed to be `$PAL_ROOT/etc/license.dat`.

If both variables are set, `PAL_LICENSEFILE` will take precedence. For a site–license, it is usually best to put the license keys into `./etc/license.dat` in the Vampir tree. You can store multiple license keys in one system–wide license file.

If called without a valid license, or with invalid settings of the above environment variables, Vampir aborts with an error message like that shown in the previous section.

In this case, make sure that the correct license key file is specified with the above mentioned environment variables, or contact Pallas to acquire a license (URL `http://www.pallas.de`, email to `support@pallas.de`).

6 User Setup

Apart from the environment settings for the license scheme, a few additional steps need be taken by a Vampir user.

Vampir will create a configuration file called `VAMPIR2.cnf` in the directory `~/.VAMPIR_defaults`. This file contains all configuration settings for Vampir and enables Vampir to preserve settings from one session to another. If a user doesn't have a

configuration file, he/she should create the directory `~/.VAMPIR_defaults` and copy the system–default file in `./etc/VAMPIR2.cnf` in the Vampir tree into it. The configuration file directory can be specified by setting the environment variable `VAMPIR_CONFDIR`.

For Vampir 1 users the existing configuration file `~/.VAMPIR_defaults/VAMPIR.cnf` will be migrated to the new `VAMPIR2.cnf` file. So all Vampir 1 settings are immediately available.

If there's no configuration file at all, Vampir will create one with default values that allow to start the visualization. For more details about Vampir configuration, please refer to the Vampir User's Manual.

The directory `./bin` should be included in the user's executable search path (shell variable `path` or environment variable `PATH`). Vampir does internally call the `import` utility from the `ImageMagick` package to generate screendumps. Furthermore, the `gunzip` and `uncompress` utilities should be in the executable search path.

7 Initial Test

The Vampir distribution contains a small tracefile: `./etc/lu.S.4.bpv`. Startup Vampir, and select the main menu option **File/Open tracefile**. Use the Motif file selection dialog to load the `lu.S.4.bpv` tracefile. The Vampir main window should look like Figure 1 (except for window dimensions and decoration, of course).

Figure 1: Main Window After Reading `lu.S.4.bpv`

Then the **Global Displays/Timeline** view will automatically popup, and a window like Figure 2 should appear.

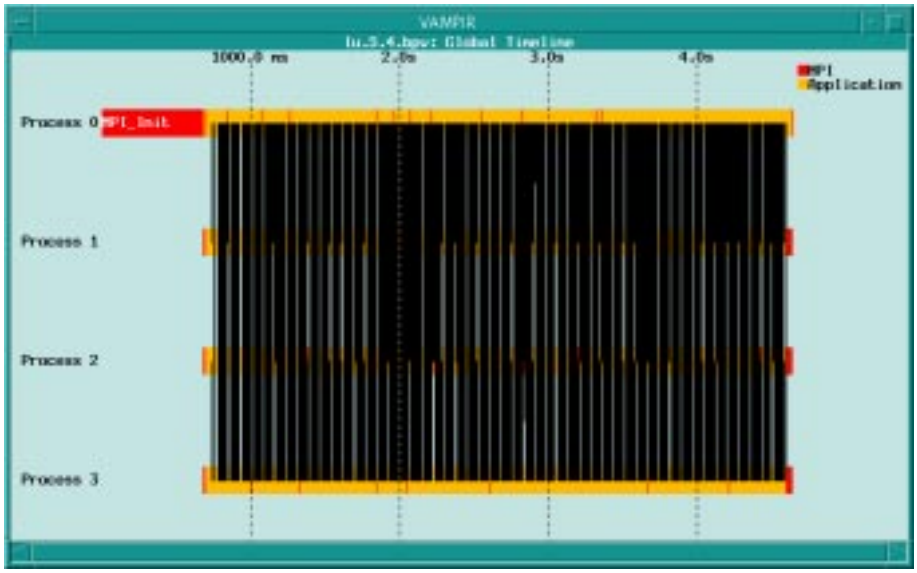

Figure 2: Timeline Window After Reading `lu.S.4.bpv`

If that works, the basic installation is complete. The User's Manual contains a chapter about user–specific configuration of Vampir.

8 Traps and Pitfalls

8.1 The Licensing Scheme

Every user must set the environment variables for the licensing scheme properly (see section 5). If Vampir terminates with due to a license problem, check these settings first.

If you've purchased a personal copy, Vampir will only run under the account the license was purchased for.

8.2 Shared Libraries

On some systems, X and Motif libraries are installed in non–standard places. Vampir is dynamically linked (except the Linux version), and expects those libraries in the standard place. If Vampir terminates because a shared library seems to be unavailable, find out where it is installed on your system, and provide a corresponding dynamic libray load-path to Vampir. On many systems, this can be done by setting the `LD_LIBRARY_PATH` variable. Please refer to your system documentation for details.

If the problem persists, contact the Pallas support.

8.3 Disk Quotas

Vampir uncompresses compressed tracefiles on–the–fly. This (and Vampir's scratch files) may cause a user's disk quota limit to be reached. Specify `/tmp` or some other place for temporary files that is not supervised by the quota system as the **Temp Path** in the **Preferences/Displays/General** dialog.

8.4 Private X Colormap

To display all different states of an parallel application, Vampir has to allocate a lot of different color cells. In conjunction with other color greedy applications it is possible (especially on 8-bit displays) that the colormap does not have enough free cells. To avoid this the user can use the command line option `-install` to instruct Vampir to use a private colormap instead of the default.

9 Getting Help

If any problems do occur during installation or use of Vampir, don't hesitate to contact the Pallas support staff by e–mailing to `support@pallas.de`.

10 Getting Example Tracefiles

A collection of tracefiles is available from Pallas free of charge: you can download them from the WWW pages (`http://www.pallas.de`), per anonymous ftp (`ftp.pallas.de`).